

2. Complete an estuary feasibility study to determine a long-range management decision.

Studying the Estuary Alternative

Capitol Lake was created by damming a portion of southern Budd Inlet. The exploration of returning the lake to an estuary began with the *Environmental Impact Statement (EIS) for the Capitol Lake Adaptive Management Plan* (1999). The EIS evaluated one no action, two estuary, and three fresh water alternatives. It also generated some surprising new information. For example, it was discovered that the 100 year flood elevation for a lake was several feet higher than without the dam. This information was further refined by a *CLAMP Flood Analysis Study* (2000) which found the difference in flood elevations between a lake and estuary to be approximately three feet. This data is now being further refined and mapped in Objective 5.

Other aspects of an estuary alternative were explored by two other CLAMP funded studies. The first was a *CLAMP Hydraulic Scour Analysis* (2000) which determined that it may be possible to armor the road crossings in the basin to accommodate an estuary. However, the report also indicated that Deschutes Parkway and to a lesser degree some of the shoreline parks, might require further geotechnical study and possibly retrofit to insure structural stability in an estuarine environment. The second report, referred to as the *CLAMP Budd Inlet Water Quality Modeling Report* (2000), indicated that "a substantial water quality improvement (an increase of 1-5mg/l dissolved oxygen) is realized in south and central Budd Inlet as a result of returning Capitol Lake to a tidal estuary ... (with improvements) observed throughout the Budd Inlet, but particularly in the most water quality impaired areas in East Bay and West Bay".



Estuary Alternative - at early stage of transition - at low tide. Courtesy of Entranco, 1998.

Activities in Years 2003-2005

The CLAMP Steering Committee first investigated the costs, benefits and trade-offs of an estuary alternative for Capitol Lake in 1997. During the 2003-2005 biennium CLAMP activities will include the collection of information to support the need for dedicated resources to support this objective.

CLAMP Budget 2003-2005

The costs to prepare a scope of work for a comprehensive analysis of Capitol Lake as an estuary alternative will be \$40,000.

Activities in Years 2005-2013

During the 2005–2007 biennium CLAMP will work with others to gain new knowledge regarding such a transition. One possible opportunity for a cooperative project could be with the Puget Sound Nearshore Ecosystem Restoration Project (PSNERP) commonly referred to as the "Puget Sound Nearshore Project". This is a collaborative project between the U.S. Army Corps of Engineers, other federal agencies, and the state of Washington.

Potential activities during this biennium could include working with the Corps and its partners to define the scope of work for this comprehensive analysis of transforming Capitol Lake to an estuary. A key item for this scope of work will be to address the possible impacts to navigation & boating interests in the southern Budd Inlet. This analysis will also need to identify the financial costs to local and state infrastructure of such a restoration effort, including the identification of feasible local, state and federal funding sources.

CLAMP Budget 2005-2013

If a joint study with the Puget Sound Nearshore Project is feasible, it may be possible to share the cost of the comprehensive analysis with the Army Corps. In such projects 50% of the cost would be covered by the Corps with the remaining amount being the required local match. It may be possible that some of the already completed CLAMP studies can be used as local match. It may also be possible that the required local match for this study may come from a variety of state funding sources (e.g. GA, WDFW, WDNR, WDOE, etc.).